



Portable Color Camera, Type TKP-45A

- Uncompromised picture quality
- Matches studio-type cameras
- Single-unit camera head—no back pack
- Small diameter, lightweight camera cable
- Choice of interchangeable lenses

The TKP-45 is a multi-purpose, portable camera useful to great advantage in many television-production situations. While its excellent portability makes it ideal for remote (OB) use, its high performance and picture quality allows its use in the studio with the best of studio-type cameras. It not only provides opportunities for new creativity in production but reveals new sources of income for those who own and operate it: new kinds of shows, commercials, camera angles never before practical, are now produced economically. The camera's extra versatility and flexibility lets it serve a multiplicity of assignments which, in turn, results in increased facility utilization . . . a good investment.





Built-in foldaway handle simplifies transport to and from assignment location.



Three-inch (diagonal) electronic viewfinder is adjustable over a wide range. Dismounts easily when desirable.

The TKP-45 is an important breakthrough in television camera achievement. This camera generates the kind of picture quality expected of larger studio cameras that are the best their makers can offer.

Weighing approximately 20 pounds (9 kg), including a zoom lens and an electronic viewfinder, the TKP-45 camera head has the mobility to go wherever the action is. Its advantages in portable, outside-broadcast production are obvious. In the studio, it opens up opportunities for greater creativity in television production. Camera angles considered difficult or even impossible are now routine with a TKP-45.

Back-Pack Eliminated

One of the breakthroughs in this camera design is the complete elimination of the cumbersome back-pack unit usually required in earlier portable cameras. As a result, the cameraman can move about

more freely while carrying the camera and, when he's finished, he can get away from it without a routine of harness unfastening and disentangle. Even without the back-pack unit, the TKP-45 offers all of the operational advantages of a conventional, studio-type TV camera in a small, lightweight, single-unit package.

Hand-Held or Tripod-Mounted

In hand-held operation, the camera head uses a specially designed body brace to increase cameraman comfort. The camera lifts easily onto the man's shoulder in a few seconds without buckles to buckle, snaps to snap and so on.

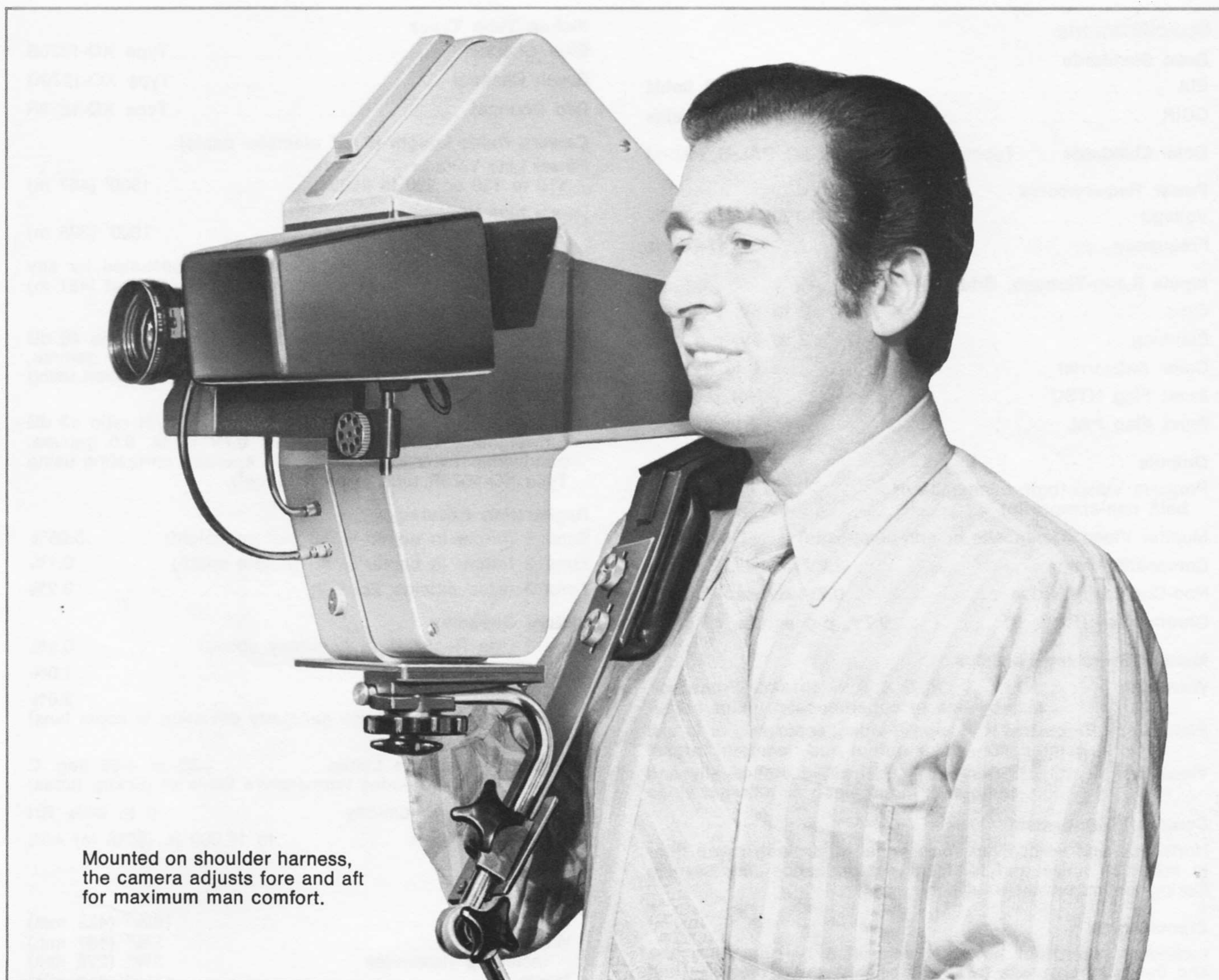
When rigid mounting is in order, the TKP-45 mounts aboard any suitable tripod or dolly using a high-quality, fluid-damped, pan-and-tilt head available as an option. This head assures the ultimate in

smooth camera movement necessary to most critical production tasks.

Small-Diameter, Lightweight Cable

The camera cable for the TKP-45 is a new, small diameter strand measuring less than one-half inch in diameter (13 mm) and weighing, length for length, less than one-half that of the so-called "mini" camera cable commonly used today. This cable is fitted with reliable, military-type connectors built to withstand the kind of use and abuse encountered in field operations.

The TKP-45 is compensated for cable lengths as long as 1500 feet (457 m). Compensation is completely automatic and cable lengths are changeable without camera readjustment for voltage drop or pulse delay.



Mounted on shoulder harness, the camera adjusts fore and aft for maximum man comfort.

Three-Inch Electronic Viewfinder

Bright, sharp pictures are the task of the three-inch (76 mm) diagonal-measurement viewfinder. Its adjustable mount—adjustable in all directions—allows optimum positioning in either hand-held or tripod-mounted assignments. The viewfinder detaches easily for easier transport or for occasions where the camera operates on a remote-control pan-and-tilt mechanism.

Built-In Microphone Input

A special feature of the TKP-45 is a low-level audio connection at the camera head suitable for a high-quality microphone input. This input connects to an audio line in the camera cable which terminates at the CCU (camera control unit). The audio facility is in addition to the usual dual interphone facilities built into the camera head. The interphone

setup is fully compatible with those in other RCA cameras.

Dual-Purpose CCU

The TKP-45 CCU is identical to that of the RCA TK-45 studio camera. As a result, the CCU accommodates either a studio or a portable camera head interchangeably. Early camera control units, without this dual accommodation, can be modified accordingly.

The TKP-45 is available with or without a CCU, see "Ordering Information".

Operationally, the portable TKP-45 is identical to the studio TK-45. As a result, video operators have no difficulty in operating one camera or the other. The TKP-45 includes all of the important operational features of the TK-45.

Built-In Automatic Controls

Automatic iris, automatic white balance, automatic black balance and (optional)

automatic centering all make the TKP-45 an outstanding portable camera. These "automatics" simplify camera operation and avoid the subjective evaluations usually involved in color-matching cameras.

Special Features

Many of the important features of the TK-45 are incorporated in the portable version:

Bias Light — Reduces lag at low light levels.

Contour Enhancement — Sharp, noise-free pictures as the result of a "comb" filter and coring techniques.

Shading Correction — Compensates for pickup tube and lens deficiencies.

Scene Contrast Compression — Brings out all of the detail in the shadows of a high-contrast scene.

Chromacomp — For wide range color flexibility.

Specifications

Scan Standards

EIA	525/60 fields
CCIR	625/50 fields

Color Standards Types available for NTSC, PAL-B, PAL-M

Power Requirements

Voltage	90-130V or 190-260V
Frequency	47-63 Hz

Inputs (Loop-Through, Bridging)

Sync	2 to 8V, p-p neg.
Blanking	2 to 8V, p-p neg.
Color Subcarrier	1 to 4V, p-p
Burst Flag NTSC	Not required
Burst Flag PAL	2 to 8V, p-p

Outputs

Program Video (both composite or both non-composite)	Two outputs
Monitor Video (Composite or non-composite)	One output
Composite Video	1.0V across 75 ohms
Non-Composite Video	0.7V across 75 ohms
Chroma Key (R, G, B)	0.7V, p-p across 75 ohms

Monitor Switching Facilities

Waveform	R, G & B video after Processor, side-by-side or superimposed; color output
Picture	Processed R, G, and B video, separately or in any combination, color output and "contour" signal
Viewfinder	Camera R/G/B video individually and combined; mono video or external video

Contour Enhancement

Horizontal and vertical aperture equalization with comb filter to minimize noise and luminance-chrominance interference. Coring minimizes noise on base line.

Chromacomp

Individual control of hue and saturation of primary colors and their complements (red, green, blue, cyan, magenta and yellow) without affecting gray scale.

Scene Contrast Compression

Stretch continuously variable from 0 to 4:1 as measured on the first—or darkest—step on the EIA Reflectance Chart. Adjustment has no effect on peak white level.

Shading Correction

Horizontal and vertical sawtooth and parabolic modulation shading for each video channel.

Lens Servo Amplifiers Integral with zoom lens

Interphone

"Production", "Engineering" and "Cue" at camera head. Requires interphone unit at CCU and 24Vdc.

Viewfinder

Screen Diagonal Dimension	3" (76 mm)
Resolution (Screen Center):	
At 100 footlamberts brightness	600 lines min.
At 200 footlamberts brightness	400 lines min.
Controls	"Contrast", "Brightness", "Beam Focus" and "Video Peaking"

Gamma Continuously variable between 0.45 and 0.7

Pickup Tube Types

Blue Channel	Type XQ-1070B
Green Channel	Type XQ-1070G
Red Channel	Type XQ-1073R

Camera Cable Length (0.45" diameter cable)

Power Line Voltage	
110 to 130 or 220 to 260V	1500' (457 m)
Power Line Voltage	
90 to 110 or 180 to 220V	1000' (305 m)

Picture Timing Automatically compensated for any cable length to 1500 feet (457 m)

Sensitivity and Signal/Noise Ratio

NTSC 125 footcandles at f/4, S/N ratio 46 dB (unweighted, 3200°K illumination, 0.7V white, 0.5 gamma, bandwidth 10kHz to 4.2 MHz, zero aperture correction using Type XQ-1073R tube in red channel).

PAL 1250 lux at f/4, S/N ratio 43 dB (unweighted, 3200°K illumination, 0.7V white, 0.5 gamma, bandwidth 10kHz to 5.5 MHz, zero aperture correction using Type XQ-1073R tube in red channel).

Registration Accuracy

Zone 1 (circle in center = 0.8 picture height)	0.05%
Zone 2 (circle in center = 1.0 picture width)	0.1%
Zone 3 (area outside Zone 2)	0.2%

Picture Geometry

Zone 1 (see Registration Accuracy above)	0.5%
Zone 2	1.0%
Zone 3	2.0%
(Excludes geometry deviation in zoom lens)	

Environmental

Ambient Temperature Limits	-20 to +55 deg. C (Excludes temperature limits of pickup tubes)
Ambient Relative Humidity	0 to 90% RH
Operational Altitude	to 10,000 ft. (3048 m) ASL

Mechanical

Camera Head:

Height	16 ⁷ / ₈ " (429 mm)
Width	5 ³ / ₈ " (137 mm)
Including viewfinder	8 ⁷ / ₈ " (225 mm)
Depth	12 ¹ / ₂ " (318 mm)
Weight (Approx.)	20 lbs. (9 kg)

Camera Control Unit:

Height	10 ¹ / ₂ " (267 mm)
Width	19" (483 mm)
Depth	16" (405 mm)
Weight	60 lbs. (27 kg)

Power Supply:

Height	5 ¹ / ₄ " (133 mm)
Width	19" (483 mm)
Depth	18" (457 mm)
Weight	71 lbs. (32 kg)

Remote Control Panel (optional):

Height	14" (356 mm)
Width	3" (76 mm)
Depth	4" (102 mm)
Weight	3 ³ / ₄ lbs. (2 kg)

Ordering Information

Type TKP-45 Color Camera are offered in a series of ensembles that include lenses, mounting, cables, consoles and other facilities. The RCA Regional Representative for your geographical area has material that helps you select the system best suited to your needs and desires.

In the interest of product improvement, specifications are subject to change without notice.